STATE OF COLORADO

Musick - DNR, Jason <jason.musick@state.co.us>

Bowie No. 1 Mine, C-1981-038, 2015 Annual Hydrology, Mine Inflow, and Subsidence Report Review Letter

1 message

Musick - DNR, Jason <jason.musick@state.co.us> Thu, Aug 4, 2016 at 9:36 AM
To: Basil Bear <basilbear@bowieresources.com>
Cc: Jim Stover <jestover@bresnan.net>, Tamme Bishop <tamme.jestover@bresnan.net>

Good morning Basil,

Attached is the Division's review of the 2015 Annual Hydrology Report associated with the Bowie No. 1 Mine.

Please let me know if you have any questions or comments.

Thanks,
Jason

Jason Musick
Environmental Protection Specialist III
Coal Regulatory Program

COLORADO
Division of Reclamation, Mining and Safety
Department of Natural Resources

P 303.866.3567 x 8134 | F 303.832.8106
1313 Sherman Street, Room 215, Denver, CO 80203
jason.musick@state.co.us | http://mining.state.co.us

2015_AHR_Review.pdf
509K

COLORADO
Division of Reclamation, Mining and Safety
Department of Natural Resources

1313 Sherman Street, Room 215
Denver, CO 80203

August 4, 2016

Basil Bear
Bowie Resources, LLC
P.O. Box 483

RE: Bowie No. 1 Mine (Permit No. C-1981-038)
2015 Annual Hydrology, Mine Inflow and Subsidence Report Review

Dear Mr. Bear,

The Division has completed its review of the above referenced reports received on 28 May 2016. The Division finds the 2015 Annual reports in compliance with the requirement to submit the above referenced reports yearly. The Division has the following comments:

2015 Annual Hydrology Report

The report addresses all of the requirements of Rules 4.05.13(1), (2), (3), and (4) and the approved permit application package. Please see Table 1 below for information and please address any adequacy items noted in RED.

Annual Mine Inflow Report

The report included all required information per Rule 4.05.13 and the approved permit application package. Inflows were not observed or reported due to the sealing of the mine portals; the Division has no questions or concerns.

Semi-Annual Subsidence Monitoring Reports

The report included all of the information as required by Rule 2.05.6(6) and the permit application package. Through Technical Revision No.'s 45 and 57 the Division has approved the reduction and cessation of subsidence monitoring stations. As such no subsidence was monitored in 2014.

If you have any questions feel free to contact me. (303) 866-3567 ext 8134

Sincerely,

Jason Musick
Environmental Protection Specialist

Review of Annual Hydrology Report

Mine: Bowie No. 1 Mine
Permit No: C-1981-038

Date Reviewed: August 2016
Reviewed By: Jason Musick

Report Year: 2015
Submitted By: Bowie Resources, LLC
Date Received: May 28, 2016

TABLE 1

Requirement	Requirement citation	Comment
1. Filing frequency of hydrology report	CDRMS regulation 4.05.13(4)(c)	The Annual hydrology Report is required to be submitted yearly
2. Timely filing of hydrology report	CDRMS Regulation 4.05.13(4)(c) Section 2.05-6(3)(b)(iii) page 120 of CDRMS mining permit C-1981-038	The Annual hydrology Report is required to be submitted on or before April 30 and was received by the Division on May 28. BRL requested and was granted AHR due date extensions beyond the April 30 submittal due date.
3. Filing frequency of NPDES Discharge Monitoring Reports	CDPS permit CO-0033685	The Division received copies of all discharge monitoring reports for the 2015 calendar year. Reports are required quarterly. Based on a Memorandum of Understanding between the Division of Reclamation, Mining and Safety and the Water Quality Control Division (WQCD), the WQCD will be responsible for enforcing CDPS permit conditions.
4. Timely filing of Discharge Monitoring Reports	CDPS permits CO-0033685	The Division received copies of all discharge monitoring reports for the 2015 calendar year in the appropriate timeframe. Based on a Memorandum of Understanding between the Division of Reclamation, Mining and Safety and the Water Quality Control Division (WQCD), the WQCD will be responsible for enforcing CDPS permit conditions.

5. Sampling frequency of NPDES outfalls	CDPS permits CO-0033685	Based on a Memorandum of Understanding between the Division of Reclamation, Mining and Safety and the Water Quality Control Division (WQCD), the WQCD will be responsible for enforcing CDPS permit conditions.
6. Parameters to be sampled for NPDES reporting	CDPS permits CO-0033685	Based on a Memorandum of Understanding between the Division of Reclamation, Mining and Safety and the Water Quality Control Division (WQCD), the WQCD will be responsible for enforcing CDPS permit conditions.
7. CDPS discharge limitations	CDPS permits CO-0033685	No exceedances were noted during the 2015 water year as no flow was reported in all four quarter of 2015. Based on a Memorandum of Understanding between the Division of Reclamation, Mining and Safety and the Water Quality Control Division (WQCD), the WQCD will be responsible for enforcing CDPS permit conditions.
8. Sampling frequency at surface water sites	Table 1 of 2015 AHR	All frequencies were met for the 2015 Water Year.
9. Parameters to be sampled at surface water sites	Table 2 of 2015 AHR	All parameters were met for the 2015 Water Year, with the exception of the following: S3000 – TDS Ratio S3200 – TDS Ratio SW06 – Flow Rate P1001 – Temperature, Conductivity, pH, TDS Ratio P1002 – TDS Ratio P1003 – TDS Ratio P1004 – TDS Ratio P1007 – Total Iron, Total Manganese, TDS Ratio P1009 – TDS Ratio P1014 – TDS Ratio P1501 – TDS Ratio Please provide information as to the justification for the omission of parameters noted above.
10. Sampling frequency of ground water monitoring wells	Table 1 of 2015 AHR	All monitoring frequencies were met for the 2015 Water Year.

11. Basic Standards (Interim Narrative Standard) for Ground Water	CWQCC regulation 41.5.C.6	A groundwater point of compliance was not established for the Bowie No. 1 Mine based on existing groundwater quality and use and a prediction in the Probable Hydrologic Consequences section of C-1981-038 that mining will not likely have a negative effect on groundwater.
12. Parameters to be analyzed in ground water samples	Table 2 of 2015 AHR	All parameters were met for the 2015 Water Year, with the exception of the following: SM01 – TDS Ratio SM05 – TDS Ratio SM06 – Flow Rate SM07 – Conductivity, TDS Ratio SM09 – TDS Ratio SM11 – TDS Ratio Please provide information as to the justification for the omission of parameters noted above.
13. Prevention of material damage to the hydrologic balance outside the permit area	CDRMS regulation 4.05.1(1)	Based on the information presented in the 2015 AHR the disturbance to the hydrologic balance within and adjacent to the permit area caused by mining and reclamation at the Bowie No. 1 Mine is the minimum that can be expected from an underground mining operation at this location. Use of best management practices indicates minimization of disturbance to the hydrologic balance.
14. Agreement of observed hydrologic impacts with "probable hydrologic consequences" (PHC) projected in mining	CDRMS regulation 2.05.6(3) and requirement to keep current, CDRMS regulation 2.03.3(1)	Discussion of the PHC begins on page 125 of Section 2.05.6(3)(b)(iv) of permit C-1981-038 and is divided into four sections; effects to surface water from mine facilities, effects to groundwater from mine facilities, effects to groundwater within the permit and adjacent areas, and effects to surface water within the permit and adjacent areas. Surface water – Monitoring data reported for springs and ponds was somewhat consistent with baseline data and the predicted impacts identified in the PHC section on page 125 of Volume 1 of C-1981-038. The water quality reported for a majority of surface water sites fell within the baseline ranges. Higher than average parameters were identified both at sites affected by mining and those not affected by mining. See Table 2 below.

		Ground water – No material damage has occurred, as discussed in item 11, above.
15. Adequacy of ground water monitoring program	CDRMS regulation 4.05.13(1)	The current ground water monitoring program continues to adequately address the protection of the hydrologic balance.
16. Adequacy of surface water monitoring program	CDRMS regulation 4.05.13(2)	The current surface water monitoring program continues to adequately address the protection of the hydrologic balance.

TABLE 2

Parameters Reported Higher than Average			
Location	**Date**	**Parameter**	**Value**
SW05 – Stevens Gulch	4/29/2015	Temp (10.8 C)	10.1 C
	5/29/2015	Temp (10.8 C)	16.0 C
	6/15/2015	Temp (10.8 C)	17.1 C
	8/2/2015	Temp (10.8 C)	17.1 C
	9/10/2015	Temp (10.8 C)	13.8 C
	9/10/2015	Conductivity (746 umhos/cm)	1060 umhos/cm
	9/10/2015	Bicarbonate (302 mg/L)	317 mg/L
	6/15/2015	Carbonate (1 mg/L)	8.0 mg/L
	9/10/2015	Carbonate (1 mg/L)	10.3 mg/L
	9/10/2015	Chloride (16 mg/L)	22.05 mg/L
	9/10/2015	Hardness (312 mg/L)	442 mg/L
	6/15/2015	pH (8.1 su)	8.6 su
	9/10/2015	pH (8.1 su)	8.46 su
	9/10/2015	TDS (488 mg/L)	705 mg/L
	9/10/2015	SAR (1.14)	1.25
	9/10/2015	Sulfate (131.5 mg/L)	233 mg/L
	9/10/2015	Calcium (71.8 mg/L)	92.1 mg/L
	9/10/2015	Magnesium (32.1 mg/L)	51.6 mg/L
	9/10/2015	Sodium (47.8 mg/L)	60.4 mg/L
SW06 – East Roatcap Creek	6/19/2015	Bicarbonate (155 mg/L)	179 mg/L
	6/19/2015	Conductivity (275 mg/L)	368 mg/L
	6/19/2015	Hardness (158 mg/L)	177 mg/L
	6/19/2015	pH (7.9 su)	8.48 su

	6/19/2015	TDS (180 mg/L)	242 mg/L
	6/19/2015	Calcium (37 mg/L)	43.2 mg/L
	6/19/2015	Magnesium (14 mg/L)	16.8 mg/L